

REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested.

By way of this amendment, all independent claims have been amended to recite that at least one of maximum width, minimum width, or average width in the width detected in each of the window elements is obtained. Further, each of the independent claims have been amended to delete reference to "maximum" with regard to calculating width between the edges in a height direction in each of the window elements. Support for this amendment can be found throughout the present application, including page 7, line 23 to page 8, line 2. Accordingly, no questions of new matter should arise and entry of this amendment is respectfully requested.

Rejection of claims 1, 4, 5, and 13 under 35 U.S.C. §103(a) -- Yamagata in view of Tsuchiya et al., Chatterjee, and Mitsui

At page 3 of the Office Action, the Examiner rejects claims 1, 4, 5, and 13 under 35 U.S.C. §103(a) as being unpatentable over Yamagata (U.S. Patent No. 6,021,222) in view of Tsuchiya (U.S. Patent No. 5,475,766), Chatterjee (U.S. Patent No. 5,701,179), and Mitsui (U.S. Patent Application Publication No. US 2002/0141647). The Examiner has basically restated the previous rejection of these claims and now further adds Mitsui. The Examiner states at page 5 that one skilled in the art would include calculating maximum width between the edges to calculate the edge strength to determine which filter to apply for improving image quality. This rejection is respectfully traversed.

The differences between the cited art and the present invention as set forth in significant detail in the Amendment filed April 9, 2009 apply equally here with respect to the references previously relied upon by the Examiner. In order to avoid repeating these arguments, these

arguments are incorporated by reference herein. With regard to the Examiner's new reliance on Mitsui, the Examiner relies upon paragraph [0006] and Figure 10 of Mitsui and argues that one skilled in the art would include calculating maximum width between the edges because this will determine which filter to apply for improving image quality.

The applicants respectfully disagree. First, it is noted that in the present invention, at least one of maximum width, minimum width, or average width in the width detected in each of the window elements is obtained. It is important to note that this is for each of the window elements. With regard to Mitsui, which relates to a pattern evaluation method, it is questionable whether this method could even be incorporated into Yamagata or the secondary references. It is noted that in paragraph [0006] of Mitsui, the reference to obtaining a minimum or maximum distance between the pairs of edges is done when the pattern does not have a constant width, but it is important to note that this calculation of maximum or minimum distance between the pair of edges is based on the entire pattern, which does not have a constant width and is not based on individual detections for each of the window elements. Put another way, as stated in the claims, the present invention involves a calculation unit (for instance, referring to claim 1) for obtaining edge-related information from the edges detected by the edge detection unit. For each of the edges detected, the width between the edges in the height direction is obtained and the maximum width, minimum width, and/or average value in the width detected for each of the window elements is obtained. This is quite different from Mitsui (even if combinable with the previously relied upon references), wherein Mitsui obtains a single maximum line value or single minimum line width value based on the entire line pattern measured. There are no individual minimum widths, maximum widths, or average values per each window element being measured or obtained. Thus, even if Mitsui was combinable, the claimed invention would still not be taught or suggested. With regard to the

Examiner's reference to Figure 10 of Mitsui, the applicants believe that Figure 10 does not support the Examiner's position since Figure 10 is an example of a DAD map from a plurality of line patterns shown in Figure 9 and, again, there is no showing or suggestion of obtaining maximum width, minimum width, or average value in the widths detected in each of the window elements since there are not individual window elements being obtained, nor are there individual maximum width, minimum width, or average values being obtained for each window element.

Accordingly, for these reasons, this rejection should be withdrawn.

Rejection of claims 2, 3, 6, and 7-11 under 35 U.S.C. §103(a) – Yamagata, in view of Tsuchiya et al., Chatterjee, Mitsui, and further in view of Lopez et al.

At page 6 of the Office Action, claims 2, 3, 6, and 7-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamagata in view of Tsuchiya, Chatterjee, and Mitsui, as applied to claim 1, and further in view of Lopez (U.S. Patent No. 6,148,117). This rejection is respectfully traversed.

The comments regarding Yamagata, Tsuchiya et al., Chatterjee, and Mitsui, as set forth above, apply equally here.

With respect to Lopez et al., Lopez et al. does not involve setting an edge window, setting a plurality of window elements in the edge window, and performing the measurement based on the positions of edges detected in the window elements, as in the present invention.

Accordingly, for these reasons, this rejection should be withdrawn.

Rejection of claim 14 under 35 U.S.C. §103(a) -- Yamagata in view of Tsuchiya et al., Chatterjee, Mitsui, and further in view of Kobayasi et al.

At page 8 of the final Office Action, claim 14 is rejected under 35 U.S.C. §103(a) as being

unpatentable over Yamagata in view of Tsuchiya, Chatterjee, and Mitsui, as applied to claim 1, and further in view of Kobayasi (U.S. Patent No. 5,136,661). This rejection is respectfully traversed.

The comments regarding Yamagata, Tsuchiya et al., Chatterjee, and Mitsui, as set forth above, apply equally here.

With respect to Kobayasi et al., Kobayashi et al. relates to position recognition and does not relate to setting an edge window, setting a plurality of window elements in the edge window, and performing the measurements based on the positions of the edges detected in each of the window elements, as in the present invention.

Accordingly, for these reasons, this rejection should be withdrawn.

Rejection of claims 15-18 under 35 U.S.C. §103(a) -- Yamagata in view of Tsuchiya et al., Chatterjee, Mitsui, and Lopez et al.

At page 8 of the Office Action, claims 15-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamagata in view of Tsuchiya, Chatterjee, Mitsui, and Lopez. The Examiner has applied a five-way combination of references in rejecting these claims. This rejection is respectfully traversed.

The comments regarding Yamagata, Tsuchiya et al., Chatterjee, and Mitsui, as set forth above, apply equally here.

With respect to Lopez et al., Lopez et al. does not involve setting an edge window, setting a plurality of window elements in the edge window, and performing the measurement based on the positions of the edges detected in the window elements, as in the present invention.

Accordingly, for these reasons, this rejection should be withdrawn.

Rejection of claim 19 under 35 U.S.C. §103(a) -- Yamagata in view of Tsuchiya et al., Chatterjee, Mitsui, Lopez et al., and further in view of Kobayasi et al.

At page 9 of the Office Action, claim 19 is rejected under 35 U.S.C. §103(a) as being unpatentable over Yamagata in view of Tsuchiya, Chatterjee, Mitsui, and Lopez, as applied to claim 15, and further in view of Kobayasi. This rejection is respectfully traversed.

The comments regarding Yamagata, Tsuchiya et al., Chatterjee, and Mitsui, as set forth above, apply equally here.

With respect to Lopez et al. and Kobayasi et al., these cited references do not involve setting an edge window, setting a plurality of window elements in the edge window, and performing the measurement based on the positions of the edges detected in the window elements, as in the present invention.

Accordingly, this rejection should be withdrawn.

Rejection of claims 20 and 21 under 35 U.S.C. §103(a) -- Yamagata in view of Shimazaki, Do, and Mitsui

At page 9 of the Office Action, claims 20 and 21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamagata in view of Shimazaki (U.S. Patent No. 5,058,176), Do (U.S. Patent No. 6,941,007), and Mitsui. This rejection is respectfully traversed.

For the reasons set forth above with respect to Yamagata and Mitsui, this rejection should be withdrawn.

With respect to Shimazaki et al., the Examiner pointed out that there is a description about a window in col. 2, lines 40-47 of Shimazaki et al. However, in col. 2, lines 2-5, the level of the window is for brightness and the width of the window is for gradation, which is totally different from the definitions of the window element and edge window of the present invention.

With respect to Do, Do relates to pattern recognition and recognizing the distance between the coordinates of elements detected in each of the windows, as in Fig. 9E, as pointed out by the Examiner. The image selection process in Do does not set an edge window, set a plurality of window elements in the edge window, and perform the measurement based on the positions of the edges detected in each of the window elements, as in the present invention.

Further, with respect to Do, a pattern inspection apparatus and method are mentioned, which is used to detect defects in an object being inspected. Do primarily relates to the inspection of wafers as shown, for instance, in Fig. 2 of Do. In Do, a 3D article is being inspected and this involves a pattern recognition technique, wherein multiple images of the object being inspected are obtained. Again, this is quite different from the primary reference of Yamagata, which is detecting a circled image for pattern recognition on a 2D piece of data. This is further confirmed at col. 17, beginning at line 27, which indicates the applications for the method and system of Yamagata, which involves the scanning of 2D data objects, such as maps and photographs. One skilled in the art would look to Do for any modification of Yamagata.

Accordingly, this rejection should be withdrawn.


CONCLUSION

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

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Respectfully submitted,



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